

27820

Medical Biofilm Techniques

August 2012

Daily staff:

Claus Sternberg

Janus Haagenzen

Rasmus Marvig

Rasmus Bojsen

Henrik Fallesen

Practical information

- Experiments and talks
 - Short 10 min intro every day before the first lab session
- Work in the lab
 - Lab coats
 - Waste
 - P2 rules (for tagged *P. aeruginosa*). If anyone is pregnant let us know!
- Talks every day, Be there in time. All talks will be in this room
- Presentations at the last day
 - Treat data/results on the way so that you just have to put everything together in the end
- The wiki page
 - Schedule for the different experiments
 - Flowchart of the different experiments
 - List of speakers
 - Laboratory manuals and protocols
 - The flow systems
 - Additional protocols
 - Accompanying papers
- Valuables
- Teams
- The Coffee machine

The different exercises

- **5 different biofilm systems are going to be set up:**
- System 1: Development and architecture of *E. coli* biofilms
- System 2: FISH in biofilms(*P. aeruginosa* and *Acinetobacter* variants)
- System 3: Differentiation, structure development and colistin tolerance in *P. aeruginosa* biofilms
- System 4: *P. aeruginosa* mutants structure development and resistance
- System 5: Free Exercise
- Diagnostics
- Additionally:
 - The biofilm protocol
 - The FISH protocol
 - Adhesion assay
 - Conjugation/plasmid transfer
 - MIC determinations
 - Cell sorting (demo)
 - Quorum Sensing assays

Saturday program

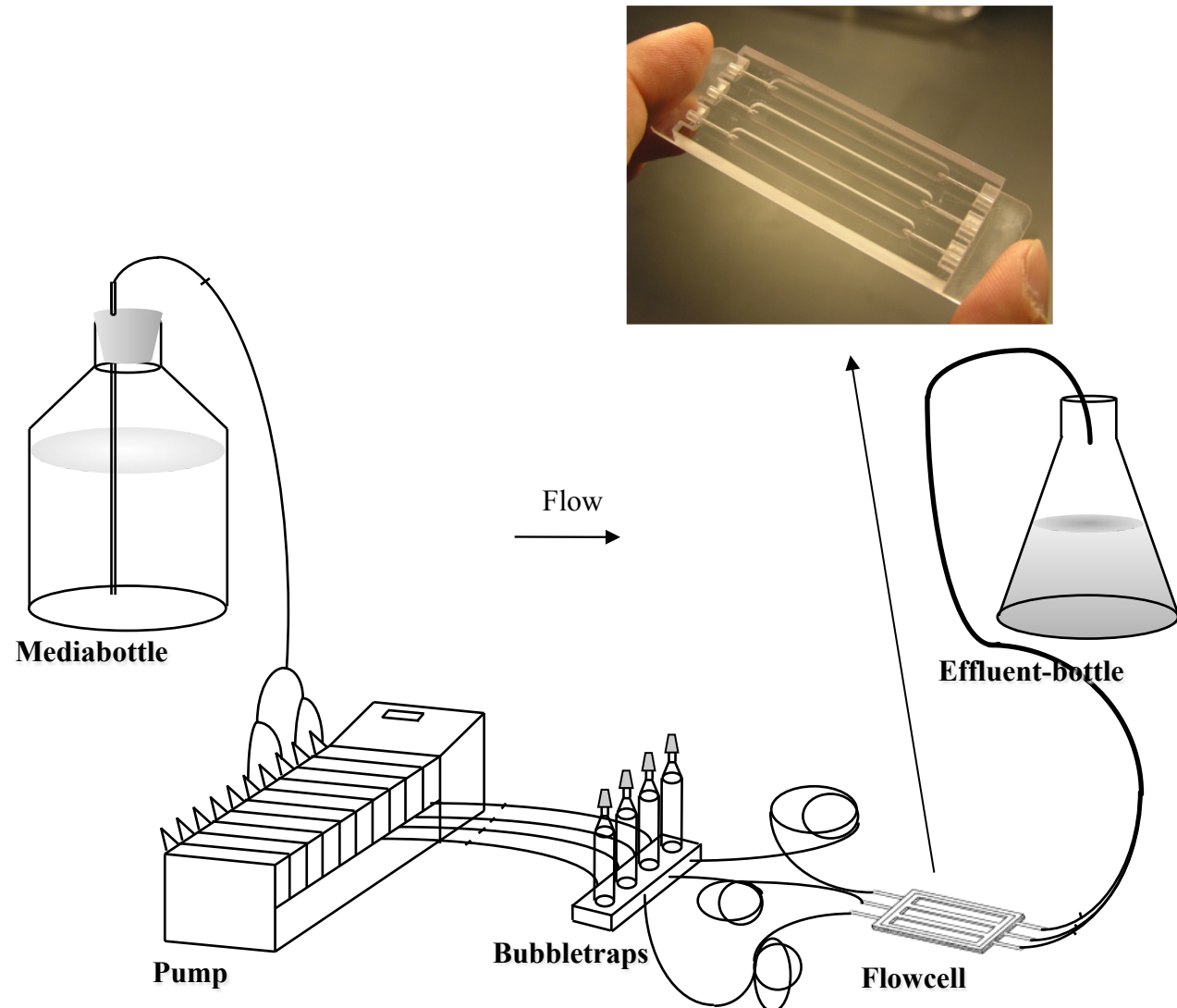
Saturday 11/8:

- 9:00 The exercises and practical information
- 9:30 Technical Talk: Janus Haagensen and Claus Sternberg: Biofilms and tools, confocal microscopy and COMSTAT, Imaris and FACS.**
- 10:30 Tour of the institute and space in the lab. Finding lab coats.
- 11:00 Rasmus Marvig: Bacterial evolution in chronic infections**
- 12:00 Lunch. (sandwiches)
- 1:00 Building Biofilm setups (All in all we will work on 5 systems during the course, each team of 3 will be responsible for 1 system with respect to media preparation and waste removal, all teams will work on all systems).
Medium preparation for all biofilm systems.
- 3:00 Rasmus Bojsen and Henrik Fallesen. Intro to exercise 3 and 4**
Inoculation of already prepared and sterilized system 1 and 3.
The free exercise: Sampling of bacteria from your own chosen environment (contact lenses, soil, plants etc). Isolation of bacteria/plating and incubation at different temperatures.
- 6:00 End of day 1

The Flow Chamber System

**The standard set-up
at DTU for hydro-
dynamic biofilm
development.**

**The flow-cells are
mountable directly
on the Confocal
Microscopes for in
situ investigations
(Zeiss LSM510
or Leica DMRXA)**



Movie:

How to assemble the
flow system